



Cal/EPA

California
Environmental
Protection
Agency



Pete Wilson
Governor

Peter M. Rooney
Secretary for
Environmental
Protection



Air Resources Board

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Sacramento, CA
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Dear Sir or Madam:

The staffs of the Air Resources Board (ARB) and the Office of Environmental Health Hazard Assessment (OEHHA) have been evaluating diesel exhaust since 1989 under California's air toxics program for potential identification as a toxic air contaminant (TAC). We are providing our third revised draft report, *Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, February 1998*, for your review and comment. The report was first released in June 1994 for public review and comment. A revised draft report was released in May 1997. We are providing more than 30 days for you to comment on this version of the report. Revisions to the report are shown in italics, except for the changes to the Executive Summary. The Executive Summary is not italicized because substantial changes were made. A brief summary of the major changes to the Exposure Assessment (Part A) and the Health Effects Assessment (Part B) is enclosed. Please provide us with your written comments on the report by March 30, 1998.

After the public comment period, the report will be formally discussed with the SRP at a duly noticed meeting. We anticipate that this meeting will occur in late April 1998. Please note that the SRP does not accept written or oral testimony at its meetings. Please submit two copies of your comments on the revised portion of the report by March 30, 1998, to:

***Ms. Genevieve Shiroma
Chief, Air Quality Measures Branch
California Air Resources Board
Attention: Diesel Exhaust ID
P.O. Box 2815
Sacramento, California 95812***

The report is also available on the Internet via ARB's home page (<http://www.arb.ca.gov/toxics/diesel/dieselex.htm>). If you have any questions regarding the Exposure Assessment (Part A), please contact Ms. Janette Brooks, Manager, Substance Evaluation Section at (916) 322-8278, or Mr. Robert Krieger, Substance Evaluation Section at (916) 327-5615. For questions concerning the

Sir or Madam

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Health Effects Assessment (Part B), please contact Dr. Melanie Marty, Acting Chief of the Air Toxicology and Epidemiology Section, OEHHA, at (510) 540-3324.

Sincerely,

Genevieve A. Shiroma, Chief
Air Quality Measures Branch

Enclosures

cc: Melanie Marty, Ph.D.
Acting Chief, Air Toxicology and Epidemiology Section
Office of Environmental Health Hazard Assessment
2151 Berkeley Way, Annex 11
Berkeley, California 94704

Ms. Janette Brooks
Manager, Substance Evaluation Section
Stationary Source Division

Mr. Robert Krieger
Substance Evaluation Section
Stationary Source Division

Summary of Changes to the Report
Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant

The Exposure Assessment (Part A) and the Health Effects Assessment (Part B) have been revised since the May 1997 draft to incorporate public comments received during the second comment period (May - August 1997) and at the July 1997 public workshop. We have revised Part A to include:

- < Chapter III: Enhanced discussion on diesel particle size distribution;
- < Chapter III: Added new studies on the effects of polycyclic aromatic hydrocarbons (PAH) and their transformation products;
- < Chapter IV: Updated 1990 and 1995 stationary area and point inventories, and mobile source emissions inventory to include motor vehicle emissions inventory model EMFAC7G1.0;
- < Chapter IV: Added contribution of diesel exhaust particulate matter to total California PM₁₀ (particulate matter equal to or less than 10 microns in diameter) and PM_{2.5} (particulate matter less than or equal to 2.5 microns in diameter) inventories;
- < Chapter V: Updated outdoor population-weighted ambient exposure, indoor, and total exposure analyses to incorporate the results of using EMFAC7G1.0;
- < Chapter V: Added projections for indoor and total air exposure for 2000 and 2010;
- < Chapter V: Added 1995 indoor and total air exposure estimates; and
- < Chapter V: Moved the discussion of uncertainties in estimating exposures to diesel exhaust from Appendix B to the main text.

A summary of the changes made to Part B are noted below:

- < Chapter 1: Chapter has been extensively rewritten;
- < Chapter 3: Introduction has been expanded. Added text that includes consideration of the tendency of the particulate phase to be retained in the lung after inhalation of diesel exhaust at high exposure concentrations;

- < Chapter 4: Introduction has been expanded. Includes an expanded discussion of the recent immunotoxic effects reported for both humans and animals;
- < Chapter 5: Introduction has been expanded. Added an expanded discussion of bioavailability under physiological conditions, new information on DNA adducts in humans and animals exposed to diesel exhaust, and new information on induction of oxidative DNA damage by intratracheal instillation of diesel exhaust particulate matter;
- < Chapter 6: Introduction has been expanded. Added new information on comparisons of non-neoplastic responses to diesel exhaust between rats and monkeys; new information on diesel exhaust particulate matter carcinogenicity bioassays using intratracheal instillation in rats and mice; an expanded discussion of potential mechanisms of action of diesel exhaust-induced rat lung tumor induction; information from the revisions in the meta-analysis; and more extensive discussion of several issues in the causal inference subsection; and
- < Chapter 7: Introduction has been expanded. Added an expanded discussion incorporating new information on uncertainties regarding use of the rat as an animal model for humans. Reevaluated exposure data for railroad workers and identified a range of exposures and exposure patterns for use in the quantitative risk assessment. Document now bases the range of risk estimates only on epidemiologic data.
- < Appendix C: Revisions involve making several minor changes in the data used to calculate pooled risk estimates and recalculating with the revised information and adding an additional sensitivity analysis of potential publication bias;
- < Appendix F: Appendix F, Effect of Model Assumptions on Exposure-Risk Relationship for the Garshick et al. (1988) Cohort Study, has been added to further evaluate dose-response related issues;
- < Appendix C: Deleted from the previous version of the report. The material is now incorporated into the revised Part C (Response to Public Comments).